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**FRONT-LINE DISASTER RESPONDERS: FLORIDA EXTENSION PROFESSIONAL'S PERSONAL NEEDS, PROFESSIONAL NEEDS, AND COMMUNICATION EFFORTS****Mark J. Kistler**

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**Abstract**

*Florida was hit by four major hurricanes in a six week period in 2004, impacting almost the entire state. One hundred-seventeen people died as a result of these hurricanes, and damage estimates reached more than \$22 billion (Florida Office of Insurance Regulation, 2005). In agriculture and allied industries, estimates of damages totaled more than \$2 billion (UF/IFAS, 2005) affecting key commodities. One organization that has a statewide mission, the Florida Cooperative Extension Service, also was impacted severely. With offices in all 67 counties, the Cooperative Extension Service's county Extension agents were front-line responders during these four disasters. They supported the hurricane preparation and recovery efforts in their communities, came to neighboring counties' aid when they were raked by the hurricane while suffering both personal and professional hardships, communicated through various means to provide important information to clientele groups through mass and personal channels.*

**Introduction**

In a six-week period beginning on Friday, August 13, 2004, four major hurricanes swept across Florida. One hundred-seventeen people died as a result of these hurricanes, and damage estimates reached more than \$22 billion (Florida Office of Insurance Regulation, 2005). Many homes and businesses were damaged or destroyed. In agriculture and allied industries, estimates of damages totaled more than \$2 billion (UF/IFAS, 2005) affecting key commodities. The hurricanes affected key commodities, ranging from citrus and strawberries to livestock and forestry.

The University of Florida/Institute of Food and Agricultural Sciences (UF/IFAS) formed a Hurricane Recovery Task Force to inventory UF/IFAS's immediate response during the six months following the hurricanes and "develop long-term strategies for dealing with these and future hurricanes or disasters, both natural and man-made" (UF/IFAS, 2005, p. 1).

One organization that has a statewide mission, the Florida Cooperative Extension Service, also was impacted severely. With offices in all 67 counties, the Cooperative Extension Service's county Extension agents were front-line responders during these four disasters. They

supported the hurricane preparation and recovery efforts in their communities, came to neighboring counties' aid when they were raked by the hurricanes, communicated through various means to provide important information to clientele groups through mass and personal channels. However, even the county Extension agents, especially those whose homes were damaged or destroyed in the hurricanes' wake, needed help. Until now, though, a picture of Florida Cooperative Extension Service's role and effort in the hurricanes' devastation remained unclear.

After the second hurricane, a small working group in the Department of Agricultural Education and Communication at the University of Florida began discussions of the professional and personal development needs of county Extension agents impacted by the hurricanes. The discussions evolved to include communication channels, informational resources, and the impact the Cooperative Extension Service had throughout the state. By the third hurricane, the working group decided to develop a comprehensive questionnaire to examine these areas. This comprehensive study strives to provide more clarity of the front-line response effort of Florida's county Extension faculty.

### **Purpose and Objectives**

The purpose of the study was to determine Florida Extension professional's involvement and impact – in terms of personal and professional development needs and impacts within their communities – as a result of the 2004 hurricane season. Participant feedback will help determine what Extension did in relation to preparedness and recovery efforts. Moreover, results from this study will serve as a basis for training, educational programs, and needed resources prior to another hurricane season as well as other types of disasters. This information will be used to develop much needed organizational communication, training, curriculum, and resources in preparation for future hurricanes and other types of disasters.

### **Methods/Procedures**

The population for this study included all Florida Cooperative Extension Service county Extension faculty and District Extension Directors with a viable email address as of October 2004.

A 76-question survey instrument was developed by a team of researchers in the Department of Agricultural Education and Communication, and it included quantitative and open-ended (qualitative) questions. The questions were adapted from previous research on professional development, agricultural scientists' communication efforts (Ruth, Lundy, Telg, & Irani, 2005), as well as specific questions the researchers believed necessary to gain a clear understanding of Extension's role during the hurricane preparation and recovery efforts. Experts from the departments of Family, Youth, and Community Sciences; Agricultural and Biological Engineering; Food and Resource Economics; and Clinical and Health Psychology were also asked to include and edit questions that on such topics as disaster preparedness, educational materials, agents' personal needs (including mental health issues), and community support needs. University of Florida - Institutional Review Board (IRB) approval for the study was attained on November 18, 2004.

The questionnaire was converted to a web-based format for use with *Zoomerang*, a premium Internet-based survey tool owned by MarketTools, Inc (<http://info.zoomerang.com/>). Since this software was not available in the Department of Agricultural Education and Communication, the researchers collaborated with faculty at Purdue University and the EDEN

(Extension Disaster Education Network) to utilize this software.

A letter from Dr. Larry Arrington, Dean for Extension, was emailed to all county Extension faculty and District Extension Directors on November 30, 2004, the last day of the official hurricane season, to inform faculty of the forthcoming questionnaire and to encourage their participation. The faculty received an email that overviewed the study and provided the link to the questionnaire. Two waves of follow-up were conducted with non-respondents on December 9 and 20, 2004. The researchers closed the Zoomerang website for the questionnaire on January 5, 2005, preventing any new responses. All communication with and distribution of the questionnaire was done through email. The original email list of faculty consisted of 332 addresses. Corrections due to inaccurate addresses and faculty retirements resulted in an actual population of 328. A total of 201 viable responses were received for a 61.28% response rate.

## Results/Findings

### *Demographics*

Demographic information is included to provide a general description of the characteristics of the respondents. Respondents were asked to indicate their current rank. Responses were the following: Extension Agent I, 23% ( $n=44$ ); Extension Agent II, 17% ( $n=33$ ); Extension Agent III, 17% ( $n=33$ ); Extension Agent IV, 25% ( $n=47$ ); Courtesy Extension Agent I, 4% ( $n=8$ ); Courtesy Extension Agent II, 2% ( $n=3$ ); Courtesy Extension Agent III, 3% ( $n=5$ ); Courtesy Extension Agent IV, 7% ( $n=13$ ); and Extension Program Assistant, 1% ( $n=1$ ). For those with administrative responsibilities, 39 were County Extension Directors, and two were District Extension Directors.

Respondents were asked to indicate their primary program area. This list was generated from major program areas provided by the District Extension Directors' office. Primary program areas that respondents indicated were as follows: agriculture/natural resources, 23% ( $n=45$ ); community development, 1% ( $n=2$ ); family and consumer sciences, 24% ( $n=46$ ); 4-H/youth development, 19% ( $n=37$ ); Sea Grant/aquaculture, 4% ( $n=8$ ); ornamental/environmental horticulture, 11% ( $n=21$ ); urban horticulture (including Master Gardener), 8% ( $n=16$ ); commercial horticulture (including vegetables, citrus, and forestry), 4% ( $n=8$ ); and other, 6% ( $n=11$ ).

Thirty-eight percent of the respondents ( $n=70$ ) were male, and 62% ( $n=114$ ) were female. Ethnicities indicated were as follows: Caucasian, 90% ( $n=166$ ); African-American, 2.7% ( $n=5$ ); Hispanic/Latino, 1.6% ( $n=3$ ); Native American, 1.6% ( $n=3$ ); and other, 4.1% ( $n=7$ ). Years of experience with the Cooperative Extension Service ranged from less than one year to more than 35 years.

### *Extension Faculty's Personal Needs*

Seventy-five percent of the Extension faculty ( $n=152$ ) experienced some level of damage to their home or other personal hardships. This ranged from 47% ( $n=95$ ) who experienced a slight amount of damage, 21% ( $n=43$ ) with a moderate extent, and 7% ( $n=14$ ) with a great extent.

In some areas of Florida, there was very little damage or power losses from the hurricanes. However, as one respondent expressed, "we suffered so much damage that we were reeling from the shock at the beginning. As time went by, friends reached out to us and helped with our immediate needs, like food, clothing, and shelter. We just took one day at a time, and tried to endure it and manage to get through it. That is all we or anyone can do."

The majority of Extension faculty (88%,  $n=175$ ) experienced some level of personal stress or emotional symptoms while involved in hurricane preparation and relief efforts, with 40% ( $n=80$ ) experiencing stress to a slight extent, 38% ( $n=75$ ) to a moderate extent, and 10% ( $n=20$ ) to a great extent.

Even if Extension professionals did not suffer a large amount of damage to their personal property, stress was still a repercussion of the recent hurricane season. For example, one respondent stated that he or she “did not experience hurricane devastation to personal property, but nonetheless, anxious and stressed over potential damage over a long period of time. Even frustrated by weekly necessity of having to secure my home. After the first hurricane, [I was] relieved my family was safe, but then felt somewhat guilty as I assisted others who suffered major tragedy.”

The personal experience of Extension faculty during the hurricane season also affected job performance, with 64% ( $n=128$ ) having some level of trouble concentrating or missing work. The personal experience of 43% ( $n=86$ ) of faculty had a slight effect on job performance, 18% ( $n=36$ ) moderately, and 3% ( $n=6$ ) had a great effect.

Many Extension professionals felt torn between work and family. There was a lack of focus on their Extension responsibilities because of concern for family. For example, “My County required me to be at work the day after the hurricanes, even though roads and driving conditions were unsafe. I had to leave two children at home with no electricity or basic comforts because they were out of school. Even though my children are capable of taking care of themselves and are left at home alone often, the circumstances of the aftermath made it very difficult for me to concentrate on anyone other than my family.”

Although 89% ( $n=175$ ) of respondents reported that they had some source of support for their own emotional needs, 10% ( $n=20$ ) reported that they did not have any source of support. Extension faculty indicated that they turned to family, friends, other Extension faculty, and church for support for emotional needs. As one faculty described, “Without help from family, friends, and the District Extension Director, I would have had much more emotional and physical distress and needs.” Respondents reported that personal needs had to be put on hold in an effort to help others; a large amount of mental fatigue; a lack of gas in which to perform job responsibilities; and there was little time to help family due to being required to report to work.

Over half of the respondents (52%,  $n=101$ ) indicated that they experienced a great extent of support for physical needs, including shelter, food, water, and electricity. Of these, 6% ( $n=11$ ) indicated that they had no source of support for their own physical needs, 14% ( $n=28$ ) had a slight extent, and 28% ( $n=54$ ) had a moderate extent.

Extension faculty relied on family, friends, other Extension faculty, church, and County Emergency Management relief programs, FEMA (Federal Emergency Management Agency), Red Cross, and TECO (a local electric company) for their physical needs, including shelter, food, water, and electricity.

Most Extension faculty (87%,  $n=165$ ) indicated that they would utilize to some level the services of specially trained volunteers to help with home and family issues in the immediate aftermath of a future disaster, in an effort to allow them to better focus on Extension work with disaster victims. Specifically, 19% ( $n=35$ ) would greatly utilize such support, 35% ( $n=67$ ) would utilize it to a moderate extent, and 33% ( $n=63$ ) would to a slight extent. However, 13% ( $n=24$ ) of respondents would not utilize such services at all.

*Extension Faculty's Professional Needs*

Fortunately, most Extension faculty felt prepared from a moderate to a great extent to address the professional challenges they experienced during the hurricanes (60%,  $n=115$ ). This translated into their ability to help clientele deal with stress by staying positive and reassuring; listening to their needs and doing their best to fulfill them; and facilitating contacts between clientele and disaster relief agencies. Because of the great effort on the part of Extension faculty to help their clientele in their time of need, many found it difficult from a moderate to a great extent to balance their own personal and professional needs (42%,  $n=80$ ).

The greatest professional challenges reported by Extension faculty were the following themes: 1) Programming - canceling and rescheduling activities, 2) Communication - lack of electricity made it difficult to get information to those who needed it, and 3) Plan of Action - leadership, up to date information. As one Extension faculty said, "All of Extension needs to be on the same page with how we prepare clients for impending storms and cleaning up afterwards. Materials need to be prepared for statewide distribution with places to locally customize if needed. No point in recreating the wheel in every county."

As far as addressing the professional challenges they faced during the hurricane season, 11% ( $n=21$ ) of Extension faculty did not feel prepared. On the contrary, 30% ( $n=57$ ) felt slightly prepared, 50% ( $n=96$ ) felt moderately prepared, and 10% ( $n=19$ ) felt greatly prepared.

However, 15% ( $n=28$ ) of the Extension faculty did not feel prepared to address the stress or emotional symptoms of clientele that were exhibited after the hurricanes. Additionally, 37% ( $n=70$ ) felt slightly prepared, 41% ( $n=77$ ) moderately prepared, and 8% ( $n=15$ ) felt greatly prepared. If clientele exhibited stress or emotional symptoms, Extension faculty primarily tried to stay positive and reassuring; listened to their needs and tried to fulfill them; and facilitate contacts with disaster relief agencies

Regarding balancing personal and professional needs, 79% ( $n=151$ ) of Extension faculty reported some difficulty and 21% ( $n=40$ ) reported no difficulty at all. Of the faculty experiencing difficulty, 37% ( $n=71$ ) experienced a slight difficulty, 27% ( $n=52$ ) moderate, and 15% ( $n=28$ ) had a great deal of difficulty. When asked what was most difficult about balancing personal and professional needs, faculty reported: 1) Trying to work while helping family, 2) Not given enough time to adequately prepare for hurricane, 3) Dealing with emotional stress while trying to work, and 4) Lack of stability.

Extension faculty feel professional development in preparation for hurricanes and other emergency situations is needed from a moderate to a great extent in working with the media (46%,  $n=91$ ), helping clientele cope with stress (55%,  $n=108$ ), hurricane disaster preparedness and recovery (49%,  $n=96$ ), and application of subject matter in disaster situations (58%,  $n=114$ ). It is felt to a slight extent that coping with personal stress (51%,  $n=100$ ), helping coworkers cope with stress (37%,  $n=72$ ), and personal needs (41%,  $n=80$ ) should be addressed by professional development. Other needs include agricultural damage assessment, expectations for Extension, mold and mildew issues. Extension faculty indicated that they would like to participate in the following training formats to a slight extent via telephone conference (34%,  $n=65$ ) or videoconference (34%,  $n=66$ ), a moderate extent in statewide conference (32%,  $n=63$ ), and a great extent via a district meeting (56%,  $n=111$ ), web-based module or CD-ROM (30%,  $n=58$ ), or print materials (38%,  $n=75$ ).

### *Extension Faculty's Communication Efforts*

In relation to Extension faculty's communication efforts, the majority of respondents indicated they made slight to moderate use of mass media channels to communicate during the hurricanes, although the greatest percentage of respondents (31%,  $n=61$ ) indicated that they did not use mass media channels at all. When asked the same question about mass media usage by their county Extension offices, the pattern of response was very similar, although the greatest percentage of respondents (35%,  $n=68$ ) indicated moderate usage of mass media.

Respondents felt that the general public was only aware to a slight extent of Extension's efforts during the hurricanes (53%,  $n=104$ ), while 20% ( $n=39$ ) of respondents indicated the general public was "not at all" aware. And only 4% ( $n=8$ ) of respondents felt the general public was aware "to a great extent." When asked this same question about their Extension clientele group, 40% ( $n=79$ ) of respondents felt this group was aware "to a moderate extent" of Extension's efforts, while 15% ( $n=29$ ) answered "to a great extent" and 11% ( $n=22$ ) felt their clientele group was "not at all aware."

Extension faculty used several different types of communications channels/sources to convey information to the public. The media channel most often used from a moderate to a great extent was flyers/print materials (61%,  $n=119$ ) followed by newspaper (48%,  $n=93$ ). Fifteen percent ( $n=10$ ) indicated the "other option" and 14% ( $n=27$ ) reported some form of Internet/Web. Responses in the other category ranged from email and telephone, to phone trees and cell phones, to site visits and word of mouth. Newsletters, handouts and meetings were also mentioned. One respondent noted, "We used too much print - stress levels so high no one wants to read. Suggest we make color posters of some basic food safety concepts from the bulletins with drawings or photos - and post all over as well as the web. People want simple - concise information NOT a bulletin!"

When asked about the effectiveness of the mass communications sources/channels used, 32% of Extension faculty ( $n=49$ ) felt flyers and print materials were most effective, followed by newspaper (29%,  $n=45$ ), other sources/channels (17%,  $n=26$ ) and radio (10%,  $n=15$ ). Only 3% ( $n=4$ ) felt that Internet/web was the most effective source/channel used. A respondent commented, "It's not about conveying information during these storms although it helps. It's about conveying compassion for people who have had their lives turned up side down. It's face to face communication. That's the most effective source of communication." On the other hand, coming from another perspective, a respondent said, "We are forced to use the media conduit in this county. They wouldn't run our information without first checking it out through Department of Health, etc. They didn't recognize our authority in matters AND as they put it "if we have downed power lines, we are not going to give "airtime" to refrigerators."

Of the personal communications methods used, the most effective was face to face communication (36%,  $n=60$ ), followed by telephone (35%,  $n=59$ ) and on-site visits (9%,  $n=16$ ). Respondents noted that electronic media was problematic, though, due to electrical outages caused by the hurricane; even cell phones didn't work. Radio was mentioned by a few respondents as one of the best means to get a simple message out immediately, and several respondents noted that they had difficulty reaching their clientele base, or that they were deployed to assist members of the general public and did not get an opportunity to communicate with their clientele until much later.

Extension faculty were asked to describe the messages they were trying to convey both to the public and to their Extension clientele group during the hurricanes. To analyze these questions, responses were grouped into common themes and categories using the constant comparative technique (Glaser, 1978). For the general public, theme areas ranged from disaster

preparedness, to safety issues, contacts for disaster relief, landscape and yard cleanup, and effects on agriculture. One common theme that recurred consistently was the concept that “Extension is here to help.” This was expressed in several ways: “Help is available regardless of need”; IFAS cares and will help in any way possible”; “Extension has the information”, etc. For clientele groups, themes were remarkably similar, including disaster preparation, safety, recovery, and yard and landscape clean up. Additional themes specific to this audience included livestock and crop management, meetings/classes/programs status and commodity specific disaster relief and assistance. The “Extension is here to help” theme was a common one for clientele messages as well. Ways in which this was expressed included, “Keeping the doors of Extension open in spite of no electricity and no phone”, “We care about them and their families and are here to support them”; “Extension has answers to their questions and problems” and “A little bit of comfort and concern for their well being.”

Finally, respondents were asked if their Extension office had an internal or external plan to manage communication efforts in a crisis like the hurricanes or other emergency situations. Eighty-three percent ( $n=160$ ) responded their Extension offices had an internal crisis communications plan, while 57% ( $n=104$ ) indicated their Extension office had an external plan. The importance of having a crisis plan was underlined by one respondent, who observed, “We had no electricity or phone service in our county for over two weeks, so communication was limited. Once electricity was restored, our computers were damaged & we were unable to access the Internet or e-mail for a month. Communication during this time was quite a challenge. We relied on cell phones mostly.”

### **Conclusions/Implications/Recommendations**

This study provides a glimpse of how far-reaching the personal and professional impacts were for Florida’s Extension faculty. Results indicate that efforts need to be undertaken by the Extension organization to develop a response strategy to implement in the event of future disasters. Additionally, Extension faculty need to clearly understand their roles and responsibilities both personally and professionally. Professional development is needed on all of these topics.

Results from this study indicate that Florida's Extension agents were, indeed, front-line responders following the four hurricanes (Charley, Frances, Ivan, and Jeanne) that struck the state in late summer 2004. Extension professionals were on the front line to provide aid to storm victims, sometimes when the professionals themselves were also severely impacted by the storms' fury. Time and again, agents provided aid to individuals in the form of distributing water and food, organizing chain saw crews, and securing and providing electrical generators. The agents also were information sources and resources in their communities. Many distributed handouts on various aspects of hurricane preparedness, recovery, and relief, including proper generator operation, food preservation and safety, and tree and debris removal. They provided information through the mass media in the forms of news releases and television and radio interviews. Extension personnel made available their offices and resources to community, statewide, and federal agencies, along with the county emergency management services. They also made use of resources from community and emergency agencies as they assisted their own clientele.

Extension personnel also were front-line responders to many agricultural producers and in rural areas across Florida. Many times, they were the first persons to assist farmers and ranchers in rural and hard-to-reach areas. They provided food, water, and ice for farmers and

ranchers so they could continue their agricultural operations, searched for missing livestock, assisted in debris removal, mended fences and barns, and secured and distributed hay and feed.

Although Extension personnel assisted in their communities, they also were impacted by the storms. Many lost homes and belongings; Extension offices were damaged; lives changed. This study provides a glimpse of how far-reaching the personal and professional impacts were. Results indicate that efforts need to be undertaken by the Extension organization to develop a response strategy to implement in the event of future hurricanes or other similar disasters, including how different departments and agencies should cooperate and interact. Additionally, faculty need to clearly understand roles and responsibilities that they have personally and professionally. Professional development is needed on all of these topics.

Florida's Extension professionals showed time and again during the six weeks of hurricanes in 2004 that they put others first and responded, many times above the call of duty, to assist people in their towns, cities, and rural areas. Police and fire/rescue operations are identified as agencies that are first-line responders. These research results indicate that Extension should also be added to the list of front-line responders who help in their communities and rural areas. The principles learned from this study would be applicable to many other Extension organizations.

### **General Recommendations**

Based on the results of this study, researchers recommend the following:

- Develop training for Extension agents on how to respond during hurricanes and other disasters, so that they know what is expected.
- Develop an implementation strategy, including a "Statewide Extension Response Team" that the UF/IFAS Extension organization would implement during a time of disaster. A key part of this would be to designate a person or persons within UF/IFAS Extension as an "emergency coordinator," whose responsibilities would be to oversee and coordinate efforts.
- Integrate this training as a component of New Extension Agent Training and/or sessions of current personnel.
- Develop a "dark Web site" that would be activated as Extension's home page in the event of a hurricane or other emergency. The "dark site" would provide information about emergency preparedness and recovery, links to various emergency relief agencies and Extension publications, and overall information to help Florida's residents.

### **Specific Recommendations – Communications**

After reviewing the communication data collected by Extension personnel, recommendations include the implementation of a unified crisis communications plan to achieve consistent internal and external outreach efforts. Through the implementation of these efforts, Extension personnel will be better prepared and informed about their roles during a natural disaster and how to react in these types of situations.

Thirty one percent of respondents indicated that they did not use mass media channels at all during the hurricanes, yet it was also recognized that media is an important resource during a crisis and that there is great potential to "get the word out" on Extension efforts and impacts. Recommendations include establishing a media relations plan to enhance informative and positive news coverage of Extension and agriculture during a crisis situation. While personal contact, such as word of mouth or site visits, appeared to be the most common form of

communication used during the hurricanes, it is also vital that Extension reach all outlets of news coverage.

Because electronic media was problematic due to electrical outages caused by the hurricanes, Extension personnel need to depend on other channels such as flyers/print materials, word of mouth, newspapers and radio to communicate their messages to the public. Policies for coordination of these materials should be included in the crisis communication plan.

### References

- Florida Office of Insurance Regulation. (2005, February). *Hurricane season 2004: Hurricane reporting summaries*. Retrieved March 7, 2005, from <http://www.flains.org/public/021005HurricaneBriefingUpdate.pdf>
- Glaser, B. (1978). *Theoretical sensitivity*. Mill Valley, CA: Sociology Press.
- Ruth, A., Lundy, L., Telg, R., & Irani, T. (2005). Trying to relate: Media relations training needs of agricultural scientists. *Science Communication*, 27(1), 127-145.
- University of Florida/Institute of Food and Agricultural Sciences. (2005, January). *Hurricane recovery task force report*. UF/IFAS. Gainesville, FL.